In the Claims

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A method for distributed device identifier number assignment and device counting in a serially connected chain of devices, comprising:

initializing a first and a second memory locations both to a value that is equal to a maximum allowed number of devices in the serially connected chain;

receiving a first sequence of received pulses;

determining a unique device identifier based upon the first sequence received of pulses by

counting a number of pulses in the first sequence of received pulses, and

subtracting the number of pulses from the value stored in the first memory location;

transmitting a first sequence of transmitted pulses;

receiving a second sequence of received pulses;

transmitting a second sequence of transmitted pulses; and

determining a total device count based upon the first and second sequences of received pulses.

2 to 4. (Canceled)

5. (Original) The method of claim 4, wherein the unique device identifier is stored back to the first memory location.

6. (Currently Amended) ~~The~~ A method ~~of claim 1, wherein~~ for distributed device identifier number assignment and device counting in a serially connected chain of devices, comprising ~~the~~ ~~determining a total device count comprises~~:

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5   initializing a first and a second memory locations both to a
6 value that is equal to a maximum allowed number of devices in the
7 serially connected chain;
8   receiving a first sequence of received pulses;
9   determining a unique device identifier based upon the first
10 sequence received of pulses;
11   transmitting a first sequence of transmitted pulses;
12   receiving a second sequence of received pulses;
13   transmitting a second sequence of transmitted pulses; and
14   determining a total device count based upon the first and
15 second sequences of received pulses by
16   counting the number of pulses in the second sequence of
17   received pulses;
18   subtracting the number of pulses from the value stored in
19   the second memory location to obtain a difference; and
20   adding the value stored in the first memory location and
21   the difference.

1 7.   (Original) The method of claim 6, further comprising
2 incrementing the result of adding the value stored in the first
3 memory location and the difference by one (1.0).

1 8.   (Previously Presented) A method for distributed device
2 identifier number assignment and device counting in a serially
3 connected chain of devices, comprising:
4   receiving a first sequence of received pulses;
5   determining a unique device identifier based upon the first
6 sequence received of pulses;
7   transmitting a first sequence of transmitted pulses, the first
8 sequence of transmitted pulses being a sequence of pulses with one
9 pulse less than the number of pulses in the first sequence of
10 received pulses;

11   receiving a second sequence of received pulses;

12   transmitting a second sequence of transmitted pulses; and

13   determining a total device count based upon the first and

14 second sequences of received pulses.

1 9. (Previously Presented) A method for distributed device

2 identifier number assignment and device counting in a serially

3 connected chain of devices, comprising:

4   receiving a first sequence of received pulses;

5   determining a unique device identifier based upon the first

6 sequence received of pulses;

7   transmitting a first sequence of transmitted pulses;

8   receiving a second sequence of received pulses;

9   transmitting a second sequence of transmitted pulses, the

10 second sequence of transmitted pulses being a sequence of pulses

11 with one pulse less than the number of pulses in the second

12 sequence of received pulses; and

13   determining a total device count based upon the first and

14 second sequences of received pulses.

10 and 11. (Canceled)

1 12. (Previously Presented) A method for distributed device

2 identifier number assignment and device counting in a serially

3 connected chain of devices, comprising:

4   receiving a first sequence of received pulses;

5   determining a unique device identifier based upon the first

6 sequence received of pulses;

7   transmitting a first sequence of transmitted pulses;

8   receiving a second sequence of received pulses;

9   transmitting a second sequence of transmitted pulses;

10   determining a total device count based upon the first and
11 second sequences of received pulses; and
12   the steps of receiving first received sequence and
13 transmitting second transmitted sequence are received and
14 transmitted over the same input/output connection.

13 to 22. (Canceled)

 1 23. (Previously Presented) A system comprising:
 2   a processor, coupled to a sequence of least one codec, adapted
 3 to processing digital data;
 4   a controller, coupled to the sequence of at least one codec,
 5 adapted to controlling communications between the processor and the
 6 sequence of at least one codec;
 7   the sequence of at least one codec, each codec comprising:
 8   a port coupled to the processor and the controller; and
 9   a semiconductor device for distributed device identifier
10 number assignment and device counting coupled to the port, the
11 semiconductor device comprising:
12   a counter, coupled to an input/output node, the
13 counter for counting a number of pulses in a sequence of pulses
14 received at the input/output node;
15   a first storage location to store a first count
16 result; and
17   a pulse generator, for generating a specified length
18 sequence of pulses, the specified length being one less than the
19 number of pulses in the sequence of pulses received at the
20 input/output node.

24. (Canceled)

 1 25. (Previously Presented) A system comprising:

2   a processor, coupled to a sequence of least one codec, adapted
3 to processing digital data;
4   a controller, coupled to the sequence of at least one codec,
5 adapted to controlling communications between the processor and the
6 sequence of at least one codec;
7   the sequence of at least one codec, each codec comprising:
8   a port coupled to the processor and the controller; and
9   a semiconductor device for distributed device identifier
10 number assignment and device counting coupled to the port; and
11   wherein a FSD signal line of a final codec in the sequence of
12 at least one codec is connected to an external pulse generator.

1 26. (Original) The system of claim 23, wherein the semiconductor
2 device operates each time the system is reset.

1 27. (Original) The system of claim 23, wherein the semiconductor
2 device operates each time the system is powered-up.

28 to 47. (Canceled)

1 48. (Previously Presented) The system of claim 25, wherein the
2 semiconductor device operates each time the system is reset.

1 49. (Previously Presented) The system of claim 25, wherein the
2 semiconductor device operates each time the system is powered-up.